Replacement claims

We claim

1. A capacitive force sensing device comprising:

   a base member;

   a platform structure moveable relative to said base member in response to a force applied to said platform structure;

   a spacer positioned between said platform structure and said base member, said spacer having a spring constant which is substantially linear with respect to the amount of force applied over a deformable region of said spacer, said spacer being made of metal; said region being defined as the linear travel distance of said spacer;

   a variable capacitor having a first electrode affixed to said platform structure and a second electrode affixed to said base member, said first electrode and said second electrode having a nominal distance of separation equal to said linear travel distance, and said capacitor configured to provide a change of capacitance upon movement of said platform structure relative to said base member; and

   an electrical means for said variable capacitor, said electrical means configured to sense a changed capacitance in said variable capacitor and to provide an electrical output in response to the changed capacitance.

2. The spacer of claim one where the spacer is made of steel.
3. The spacer of claim one, where the spacer is perforated
4. The spacer of claim one where the spacer deflects perpendicularly to the direction of the applied load.
5. The spacer of claim 1 where the spacer deflects in the direction of the applied force.

6. The spacer of claim four where the spacer is shaped like Belleville spring.
7. The spacer of claim six, where the spacer is two Belleville springs placed base to base.
8. The spacer of claim 4 where the perpendicular deflection does not touch any platform surfaces.
9. The spacer of claim 1 where multiple spacers are used.